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EXAMINER	
DICUS, TAMRA	

ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/625,921	STRICKLER ET AL.	
	Examiner	Art Unit	
	Tamra L. Dicus	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

RESPONSE TO AMENDMENT

The specification objection is withdrawn because Applicant corrected the specification. The 112 rejection is withdrawn because Applicant argued instant claims 24 and 25 use uncoated panes of glass in a comparative fashion and are not actually part of the claimed invention.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4 and 8-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,780,149 to McCurdy et al. in view of USPN 6,231,971 to Terneu et al.

Regarding instant claim 1, McCurdy teaches a coated glass article comprising a glass substrate of 3 mm thickness, and at least a first and second coating, one of which is a coating of antimony doped tin oxide wherein the glass article exhibits a selectivity of 10 or greater (see claim 6 and col. 5 and 7). Patented claims 1, 12, and 21 teach the Illuminant C and total solar energy transmittance difference, and air mass requirements also. See also col. 7, lines 12-25.

3. Regarding instant claims 17 and 18, McCurdy further includes an iridescence-suppressing interlayer between the glass substrate and the antimony doped tin oxide layer. According to McCurdy this interlayer suppresses the observance of off angle colors and single, multiple, or

gradient layer coatings are suitable (col. 2, lines 45+, especially lines 65+) and exhibits the required Illuminant C and solar energy transmittance exhibiting a neutral color having the values in the CIELAB system as claimed (see col. 7, lines 3+). McCurdy provides Illuminant C above 60%, meeting applicants range of Illuminant C of 63% or 59% and transmittance of 53% or 49% or less, regarding instant claim 18. McCurdy teaches color being defined by the composition of the coated glass article and thickness of the coats (col. 6, line 64+), and specifically teaches exhibiting a neutral color.

4. Regarding claims 19 and 21, McCurdy also includes in an alternative embodiment, an intermediate coating may range from 800-1500 Angstroms thick (equivalent to Applicant's iridescence suppressing layer). McCurdy's first layer on glass is tin oxide doped with either fluorine or antimony. The second layer is of an undoped tin oxide. See col. 5, lines 45-55 and col. 6, lines 50+. At col. 8, the tin oxide coating is 250 Angstroms, falling in the range of between 150 and 350 Angstroms as instant claim 19. At col. 4, lines 15-68, McCurdy teaches the following: In a two component interlayer, the coating deposited onto and adhering to the glass substrate has a high refractive index in the visible spectrum. A second coating, having a low refractive index, is deposited on and adheres to the first coating of the interlayer. Each interlayer has a thickness selected such that the interlayer forms a combined total optical thickness of about 1/6th to about 1/12th of a 500 nm design wavelength. The coatings suitable for use as high refractive index coatings include various metal oxides and nitrides, and their mixtures which have the proper refractive index. The preferred coating is tin oxide. The low index coating of the interlayer may include silicon dioxide. Instant claim 20 is met. Further at col. 6, lines 35-52, McCurdy explains how an intermediate coating like the second transparent

coating (the undoped tin oxide) may be applied onto the iridescence-suppressing interlayer prior to applying a first transparent coating. See also col. 6, lines 24-35 to using silica as a first or second coat. This teaching of McCurdy teaches silica on undoped tin dioxide of instant claim 19, also included in several examples of McCurdy, for instance in Example 1.

5. Regarding claim 21, in several examples, McCurdy discloses how the thickness of the tin oxide and silica layers are between Applicant's claimed range between 150 and 350 angstroms (col. 8, lines 1+ and col. 9, lines 29+). McCurdy is silent to the second coating being fluorine doped tin oxide deposited on and adhering to the coating of antimony doped tin oxide. Terneu teaches a glazing panel having various solar screening properties. At col. 1, lines 27-30 teach Terneu's glass as an architectural window. Terneu discovered that the inclusion of a fluorine doped tin oxide layer on an antimony doped tin oxide layer provided a low solar factor (solar energy) and emissivity see col. 5, lines 33-63 and patented claim 19. Therefore, it would be obvious to one having ordinary skill in the art to replace the second layer with a fluorine doped tin oxide in order to have lower solar factors and emissivity.

6. McCurdy teaches the coated glass article may include a glass substrate of any thickness which may be practiced in accordance with a float glass process. McCurdy explains the thicknesses of the first and second transparent layers is dependent upon the desired solar performance of the stack. For example, the thickness of the first transparent layer may range from 2500 to 4500 Angstroms. McCurdy also includes in an alternative embodiment, an intermediate coating may range from 800-1500 Angstroms thick. McCurdy's first layer on glass is tin oxide doped with either fluorine or antimony. The second layer is of an undoped metal oxide. See col. 5, lines 45-55 and col. 6, lines 50+.

McCurdy is silent to the thickness range of Applicant's range of antimony doped tin oxide from 1400-2400 angstroms, as in instant claims 2-3. Regarding instant claim 4, McCurdy does not teach the antimony doped tin oxide thickness from 1700 to 1800 Angstroms. However, Terneu teaches the thickness of antimony doped tin oxide coating ranges from 100 to 500 nm (1000 to 5000 Angstroms) (refer to col. 5-6, especially col. 5, line 33). Tables 1.2 and 1.3 teach antimony doped tin oxide from 1400 to 1800 Angstroms. Both citings of Terneu teach the antimony doped tin oxide falling in Applicant's range from 1700 to 1800 angstroms as in instant claim 4 and also instant claims 2-3 where Applicant's range is from 1400-2400 angstroms. It would have been obvious to one of ordinary skill in the art to include an antimony doped tin oxide thickness between 1700 and 2400 angstroms because Terneu teaches it is conventional to do so while achieving the desired solar properties.

7. Regarding instant claims 8-9 and 16, the emittance and U value properties of the glass are provided by McCurdy. At col. 7, lines 52-54, McCurdy teaches the insulated glass unit has an effective emittance value of less than 0.2. The low emittance value corresponds to a U value of less than 0.5, regarding instant claim 16, which falls in Applicant's range of less than 0.4. The McCurdy teaching therefore encompasses the emittance values of Applicant of less than about 0.2 and about 0.15. Further regarding claim 9, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. See *Titanium Metals Corp. of America v. Banner*, 778 F. 2d 775. About 0.15 of Applicant is close enough to the prior art teaching 0.2.

8. Regarding instant claim 10, McCurdy teaches a clear float glass ribbon at col. 6, lines 52-55 and Example and Predictive Example 1.

9. Regarding claim 11, McCurdy teaches an article exhibiting a neutral color having the values in the CIELAB system as claimed (see col. 7, lines 7+). Additionally, McCurdy teaches color being defined by the composition of the coated glass article and thickness of the coats (col. 6, line 64+), and specifically teaches a neutral color.

10. Regarding instant claims 12, McCurdy does not teach a tin/antimony molar ratio of 0.05 - .12. Terneu teaches a tin/antimony molar ratio of 0.05 –0.5 (col. 6, lines 5+), which is included in Applicant's range. It would have been obvious to one of ordinary skill in the art to modify the McCurdy glass because Terneu teaches a suitable conventional molar ratio range and thickness of the coating achieves two important functions which are to maintain the heat inside a building in the winter because of its low emissivity and in the summer a building does not overheat thanks to its low solar factor as explained by Terneu at col. 6, lines 1-8.

11. McCurdy provides Illuminant C above 60%, meeting applicants range of Illuminant C of 63% or 59% and transmittance of 53% or 49% or less, regarding instant claims 13 and 14. All other properties listed are inherent since the exact same materials are used.

12. At col. 1, lines 27-30 teach McCurdy's glass is an architectural window, regarding instant claim 15.

13. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,780,149 to McCurdy et al. in view of USPN 6,218,018 to McKown et al.

McCurdy teaches a coated glass article comprising a glass substrate of 3 mm thickness, and at least a first and second coating, one of which is a coating of antimony doped tin oxide wherein

the glass article exhibits a selectivity of 10 or greater (see claim 6 and col. 5 and 7). Patented claims 1, 12, and 21 teach the Illuminant C and total solar energy transmittance difference, and air mass requirements also. See also col. 7, lines 12-25.

McCurdy is silent to the second coating being fluorine doped tin oxide deposited on and adhering to the coating of antimony doped tin oxide. McKown teaches various embodiments of a solar control coated glass. McKown discovered that the inclusion of a fluorine doped tin oxide layer on an antimony doped tin oxide layer provided a solar control coated glass with a Neutral-blue color see col. 9, lines 18-30 and Figure 1. Therefore, it would be obvious to one having ordinary skill in the art to replace the second layer with a fluorine doped tin oxide in order to have a solar control coated glass with a Neutral-blue color as taught by McKown at col. 9, lines 18-30 and Figure 1.

Regarding claims 2-4, McCurdy is silent to antimony doped tin oxide thickness between about 1400 to 2400 Angstroms. McKown teaches SbSn (12) in Figure 1 and col. 9, lines 20-21 has a thickness between 800 –3000 Angstroms, which is included in Applicant's claimed range from about 1400 to 2400 Angstroms. Regarding claims 5-7, McCurdy teaches the thickness of the first layer is dependent upon the desired solar performance of the stack (layered coatings) (col. 6, lines 57+). While McCurdy teaches antimony or fluorine doped tin oxide is 2500 to 4500 Angstroms at col. 6, line 60, which is included in Applicant's claimed range of fluorine doped tin oxide from about 2000 to 3500 Angstroms, the fluorine doped tin oxide layer is not adjacent to the SbSn layer. However, McKown also provides the claimed structure teaching a layer of FSn thickness from 2800 to 3200 Angstroms at col. 10, line 35. It would have been obvious to one of ordinary skill in the art to include FSn to be between 2000-3500 and SbSn to

be between 1400 to 2400 Angstroms because McKown teaches this thickness range is conventional to provide a neutral reflected color taught at col. 9, lines 20-21 and col. 10, line 36.

14. Regarding instant claims 8-9 and 16, the emittance and U value properties of the glass are provided by McCurdy. At col. 7, lines 52-54, McCurdy teaches the insulated glass unit has an effective emittance value of less than 0.2. The low emittance value corresponds to a U value of less than 0.5, regarding instant claim 16, which falls in Applicant's range of less than 0.4. The McCurdy teaching therefore encompasses the emittance values of Applicant of less than about 0.2 and about 0.15. Further regarding claim 9, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. See *Titanium Metals Corp. of America v. Banner*, 778 F. 2d 775. About 0.15 of Applicant is close enough to the prior art teaching 0.2.

15. Regarding instant claim 10, McCurdy teaches a clear float glass ribbon at col. 6, lines 52-55 and Example and Predictive Example 1.

Regarding claim 11, McCurdy teaches an article exhibiting a neutral color having the values in the CIELAB system as claimed (see col. 7, lines 7+). Additionally, McCurdy teaches color being defined by the composition of the coated glass article and thickness of the coats (col. 6, line 64+), and specifically teaches a neutral color.

16. McCurdy does not teach a tin/antimony molar ratio of 0.05-0.12. McKown teaches the molar ratio from 0.05–0.5 (col. 4, lines 5-6) for privacy glass applications, included in Applicant's claimed range of instant claim 12. It would have been obvious to one of ordinary skill in the art

to modify the glass of McCurdy to provide a molar ratio between 0.05-.12 because McKown teaches such a ratio is conventional for privacy glass applications at col. 4, lines 5-6.

17. McCurdy provides Illuminant C above 60%, meeting applicants range of Illuminant C of 63% or 59% and transmittance of 53% or 49% or less, regarding instant claims 13 and 14. All other properties listed are inherent since the exact same materials are used.

18. At col. 1, lines 27-30 teach McCurdy's glass is an architectural window, regarding instant claim 15.

19. Regarding claims 15 & 16, McCurdy teaches an insulating glass unit for architectural glazings (col. 7, lines 24+) or window units (col. 1, lines 23+) having a U value (heat transfer coefficient) less than 0.4 (especially, col. 7, line 54+).

20. Regarding claims 17 and 18, McCurdy discussed above, further includes an iridescence-suppressing interlayer between the glass substrate and the antimony doped tin oxide layer. According to McCurdy this interlayer suppresses the observance of off angle colors and single, multiple, or gradient layer coatings are suitable (col. 2, lines 45+, especially lines 65+) and exhibits the required Illuminant C and solar energy transmittance exhibiting a neutral color having the values in the CIELAB system as claimed (see col. 7, lines 3+). McCurdy teaches color being defined by the composition of the coated glass article and thickness of the coats (col. 6, line 64+), and specifically teaches exhibiting a neutral color.

21. Regarding claims 19 and 21, McCurdy also includes in an alternative embodiment, an intermediate coating may range from 800-1500 Angstroms thick (equivalent to Applicant's iridescence suppressing layer). McCurdy's first layer on glass is tin oxide doped with either fluorine or antimony. The second layer is of an undoped tin oxide. See col. 5, lines 45-55 and

col. 6, lines 50+. At col. 8, the tin oxide coating is 250 Angstroms, falling in the range of between 150 and 350 Angstroms as instant claim 19. At col. 4, lines 15-68, McCurdy teaches the following: In a two component interlayer, the coating deposited onto and adhering to the glass substrate has a high refractive index in the visible spectrum. A second coating, having a low refractive index, is deposited on and adheres to the first coating of the interlayer. Each interlayer has a thickness selected such that the interlayer forms a combined total optical thickness of about 1/6th to about 1/12th of a 500 nm design wavelength. The coatings suitable for use as high refractive index coatings include various metal oxides and nitrides, and their mixtures which have the proper refractive index. The preferred coating is tin oxide. The low index coating of the interlayer may include silicon dioxide. Instant claim 20 is met. Further at col. 6, lines 35-52, McCurdy explains how an intermediate coating like the second transparent coating (the undoped tin oxide) may be applied onto the iridescence-suppressing interlayer prior to applying a first transparent coating. See also col. 6, lines 24-35 to using silica as a first or second coat. This teaching of McCurdy teaches silica on undoped tin dioxide of instant claim 19, also included in several examples of McCurdy, for instance in Example 1.

22. Regarding claim 21, in several examples, McCurdy discloses how the thickness of the tin oxide and silica layers are between Applicant's claimed range between 150 and 350 angstroms (col. 8, lines 1+ and col. 9, lines 29+).

23. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,780,149 to McCurdy et al. in view of USPN 6,218,018 to McKown et al.

24. Regarding claim 22, McCurdy teaches an insulating glass unit comprising a first and second glass substrate, a multilayer coating stack of at least a first and second coating, one of which is a

coating of antimony doped tin oxide wherein the glass article exhibits a selectivity of 10 or greater (satisfying 13 or more) on a clear glass substrate of 3 mm thickness (see claims 6 and 22, col. 7, lines 24+, col. 9, and col. 10). Patented claims 1, 12, and 21 teach the Illuminant C and total solar energy transmittance difference, and air mass requirements also. See also col. 7, lines 12-25. McCurdy teaches a coated glass article is ideally suited for use in architectural glazings. For example, the coated glass article may be utilized in an insulated glass unit wherein the article of the present invention functions as an outboard lite with a second clear glass article used as an inboard lite. See col. 7, lines 25-29. Such description (same as Applicant's disclosure) suggests the first glass (a) of Applicant is equivalent to the second inboard lite of McCurdy and second glass (b) of Applicant is equivalent to the glass structure for the outboard lite of McCurdy, because the coated multilayer glass of McCurdy functions as an outboard lite.

McCurdy teaches the thickness of the first and second layers is dependent upon the desired solar performance of the stack (layered coatings) (col. 6, lines 57+). McCurdy is silent to the claimed thickness of the second coating of fluorine doped tin oxide deposited on and adhering to the coating of antimony doped tin oxide.

McKown discovered that the inclusion of a fluorine doped tin oxide layer on an antimony doped tin oxide layer provided a solar control coated glass with a Neutral-blue color see col. 9, lines 18-30 and Figure 1. Therefore, it would be obvious to one having ordinary skill in the art to replace the second layer with a fluorine doped tin oxide in order to have a solar control coated glass with a Neutral-blue color as taught by McKown at col. 9, lines 18-30 and Figure 1.

McCurdy is silent to antimony doped tin oxide thickness between about 1400 to 1900 Angstroms. McKown teaches SbSn (12) in Figure 1 and col. 9, lines 20-21 has a thickness

between 800 –3000 Angstroms, which is included in Applicant's claimed range from about 1400 to 1900 Angstroms.

While McCurdy teaches antimony or fluorine doped tin oxide is 2500 to 4500 Angstroms at col. 6, line 60, which is included in Applicant's claimed range of fluorine doped tin oxide from about 2200 to 3500 Angstroms, the fluorine doped tin oxide layer is not adjacent to the SbSn layer. However, McKown also provides the claimed structure teaching a layer of FSn thickness from 2800 to 3200 Angstroms at col. 10, line 35. It would have been obvious to one of ordinary skill in the art to include FSn to be between 2200-3500 and SbSn to be between 1400 to 1900 Angstroms because McKown teaches this thickness range is conventional to provide a neutral reflected color taught at col. 9, lines 20-21 and col. 10, line 36.

Regarding claim 23, McCurdy teaches an insulating glass unit for architectural glazings (col. 7, lines 24+) or window units (col. 1, lines 23+) having a U value (heat transfer coefficient) less than 0.4 (especially, col. 7, line 54+).

Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,780,149 to McCurdy et al. in view of USPN 6,218,018 to McKown et al.

McCurdy is relied upon above. McCurdy does not expressly disclose the U value and emittance percentage properties compared to two uncoated glass panes as per instant claims 24 and 25. An insulating glass unit using a thickness of multilayered coatings and two glass panes are taught by McCurdy and McKown and would exhibit the properties as claimed in 24 and 25. Further, the emittance properties of the glass are provided by McCurdy at col. 7, lines 20-21. It would have been obvious to one of ordinary skill in the art to provide such properties as U value

and emittance percentage ranges because the same material and thickness are provided by McCurdy and McKown. The same materials would be expected to exhibit the same properties.

Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,780,149 to McCurdy et al. in view of USPN 6,218,018 to McKown et al.

Regarding claim 26, McCurdy teaches a coated glass article comprising a glass substrate of 3 mm thickness, and at least a first and second coating, one of which is a coating of antimony doped tin oxide wherein the glass article exhibits a selectivity of 10 or greater (see claim 6 and col. 5 and 7). Patented claims 1, 12, and 21 teach the Illuminant C and total solar energy transmittance difference, and air mass requirements also. See also col. 7, lines 12-25.

McCurdy is silent to the second coating being fluorine doped tin oxide deposited on and adhering to the coating of antimony doped tin oxide. McKown teaches various embodiments of a solar control coated glass. McKown discovered that the inclusion of a fluorine doped tin oxide layer on an antimony doped tin oxide layer provided a solar control coated glass with a Neutral-blue color see col. 9, lines 18-30 and Figure 1. Therefore, it would be obvious to one having ordinary skill in the art to replace the second layer with a fluorine doped tin oxide in order to have a solar control coated glass with a Neutral-blue color as taught by McKown at col. 9, lines 18-30 and Figure 1.

McCurdy is silent to antimony doped tin oxide thickness between about 1400 and 1900 Angstroms. McKown teaches SbSn (12) in Figure 1 and col. 9, lines 20-21 has a thickness between 800 –3000 Angstroms, which is included in Applicant's claimed range from about 1400 and 1900 Angstroms. McCurdy teaches the thickness of the first layer is dependent upon the desired solar performance of the stack (layered coatings) (col. 6, lines 57+). While McCurdy

teaches antimony or fluorine doped tin oxide is 2500 to 4500 Angstroms at col. 6, line 60, which is included in Applicant's claimed range of FSn from about 2200 to 3500 Angstroms, the FSn layer is not adjacent to the SbSn layer. However, McKown also provides the claimed structure teaching a layer of FSn thickness from 2800 to 3200 Angstroms at col. 10, line 35, which is included in Applicant's range of FSn from about 2200 to 3500 Angstroms. It would have been obvious to one of ordinary skill in the art to include FSn to be between 2000-3500 and SbSn to be between 1400 and 2400 Angstroms because McKown teaches this thickness range is conventional to provide a neutral reflected color taught at col. 9, lines 20-21 and col. 10, line 36.

25.

26. Regarding instant claim 27, the emittance value of the glass is provided by McCurdy. At col. 7, lines 52-54, McCurdy teaches the insulated glass unit has an effective emittance value of less than 0.2. The McCurdy teaching therefore encompasses the emittance values of Applicant of less than about 0.15. Further regarding claim 27, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. See *Titanium Metals Corp. of America v. Banner*, 778 F. 2d 775. About 0.15 of Applicant is close enough to the prior art teaching 0.2.

Regarding claim 28, McCurdy teaches an article exhibiting a neutral color having the values in the CIELAB system as claimed (see col. 7, lines 7+). Additionally, McCurdy teaches color being defined by the composition of the coated glass article and thickness of the coats (col. 6, line 64+), and specifically teaches a neutral color.

Response to Arguments

Applicant's arguments filed 02-24-04 have been fully considered but they are not persuasive. Applicants continually assert that it is improper to alter the McCurdy reference. Applicant argues McCurdy teaches differences in reactive indices of coatings in the near IR and visible regions, which is essential to the purpose of McCurdy, thereby alleging that because of this purpose, the inclusion of a fluorine doped tin oxide layer adjacent to the antimony doped tin oxide layer of both Terneu and McKown would be inoperable or would prevent desired optical properties. The Examiner does not agree. The Applicant has not provided a persuasive argument because while both Terneu and McKown teach reasons for adding the fluorine doped tin oxide layer, those reasons do not have to be the same as Applicants desired reasons. The combination would not be inoperable because while the combination may have a different result, the Applicant has not shown it won't work at all. It is unnecessary, however, that inventions of references be physically combinable to render obvious an applicant's invention. *In re Sneed*, 710 F.2d 1544, 1550, 218. The test for obviousness is not whether the features of a reference may be bodily incorporated into the structure of another reference, but what the combined teachings of those references would have suggested to those of ordinary skill in the art. *In re Keller,* 642 F.2d 413, 425, 208. Terneu teaches at col. 3, lines 18-25 and col. 5, lines 33-63 advantages of a low solar energy and emissivity values when including fluorine doped tin oxide. McKown teaches the addition produces a neutral blue color as previously set forth. Additionally, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would

otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). This does not mean that other layers cannot be added, especially knowing the feature that further layers would exhibit. Further Applicant has the same purpose as McCurdy. Applicant discusses McCurdy's optical properties in an attempt to persuade the Examiner that McCurdy in view of Terneu does not provide motivation to combine the references because the Applicant purports that the combination would somehow destroy the functionality of the claimed invention, being that the combination would be inoperable because of its intended purpose. Again, the argument that McCurdy would be inoperable is not persuasive. Applicant has not shown how or why this would occur. Further, the Examiner does not agree that optical properties would in any way result in an inoperable article.

27. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it is immaterial that McCurdy teaches an undoped layer of tin/antimony, the Examiner uses Terneu for this teaching. Applicant points to McCurdy's teaching of a doped metal oxide layer adjacent to an undoped metal oxide layer. McCurdy is not used to show an undoped layer of antimony doped tin oxide, but Terneu is used to show why one of ordinary skill in the art would add a fluorine and antimony doped tin oxide layer to McCurdy's solar screening panels. Applicant appears to ignore Ternue's teaching of this very combination. Terneu

discovered that the inclusion of a fluorine doped tin oxide layer on an antimony doped tin oxide layer provided a low solar factor (solar energy) and emissivity **see col. 5, lines 33-63 and patented claim 19**. Therefore, it would be obvious to one having ordinary skill in the art to replace the second layer with a fluorine doped tin oxide in order to have lower solar factors and emissivity. Hence, Terneu indeed provides motivation to combine because Terneu teaches a FSn layer provides a lower emissivity layer and in combination with the SbSn layer, serves as a suitable use for glazing panels, which serves for improvements of glass in the summer and winter, which is the same reason and solves the same problem of the Applicant. **See col. 6, lines 1-5.** Applicant appears to ignore the combination of McCurdy in view of Terneu by concentrating on McCurdy's second coating of undoped metal oxide. McCurdy teaches a first coating of antimony doped tin oxide already. It would have been obvious to interchange the layer of undoped metal oxide to provided a fluorine doped tin oxide layer because Terneu teaches the use of fluorine doped tin oxide adjacent to a layer of antimony doped tin oxide for the same purpose of Applicant, improving glass in the winter and summer. Therefore, the combination would not have been inoperable or contradictory to the purpose of McCurdy. That McCurdy teaches a purpose such as allowing transmission of visible light, while reducing the transmission of near infrared radiation is of no consequence because the 103 rejection was made in view of Terneu, not to McCurdy alone. Thereby, Applicant's use of *In re Gordon* is not correct because the prior art, McCurdy, does not teach away from any modification. McCurdy teaches the use of antimony doped tin oxide as the first layer. Antimony doped tin oxide was just not used as a second layer, which is why Terneu was added to the rejection because Terneu teaches fluorine doped tin oxide on antimony doped tin oxide. Contrary to Applicant's belief,

adding Terneu's antimony doped tin oxide layer to McCurdy would not render McCurdy inoperative for its state purpose. Applicant further alleges that McCurdy would have been destroyed by the combination of Terneu and McKown. The combination is not improper, would not be destroyed, and is not impermissible. The same material, same layered structure, and the same purpose as Applicant is provided by McCurdy in view of Terneu and McKown. Further Applicant has not shown the combination would destroy McCurdy's invention.

28. The Applicant references a graph plotting optical constants of SnO2:F and SnO2:Sb. The Examiner acknowledges this graph, but the graph does not provide any proof that Applicant's invention is different from the prior art of record. The Applicant has not shown any objective evidence that the combination of McCurdy in view of Terneu and McKown would have been inoperable. Thus, the 103 rejection is upheld for reasons of record.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 17, 2004

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